DEPARTMENT OF THE AIR FORCE
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OFFICE OF THE ASSISTANT SECRETARY

MEMORANDUM FOR DISTRIBUTION

FROM: SAFIAQ
1060 Air Force Pentagon
Washington, DC 20330-1060

SUBJECT: System Program Office Downsizing Tenets

The Secretary of Defense has stated that we must reduce the costs of the acquisition process by the elimination of activities that, although being performed by many dedicated and hard working personnel, are not necessary or cost effective in today's environment. This mandate for change requires a fundamental shift in the way the Air Force conducts acquisition. The System Program Offices (SPOs) represent the lifeline of the Air Force acquisition process, and therefore the System Program Manager/Director (SPD) is charged with eliminating unnecessary activities thereby reducing program costs.

It is widely recognized that SPOs supporting classified acquisitions, also referred to as Special Access Required (SAR) programs, have successfully performed their mission for many years with a substantially smaller workforce than unclassified SPOs. To assist SPDs in meeting the SECDEF mandate, Lightning Bolt #3 was issued which directed a through review of concept of operations for SAR programs with the goal of identifying tenets that, if applied to unclassified programs, should achieve efficiencies in operations and reductions in manpower. In addition to a review of SAR programs, every AFMC center was queried for on-going initiatives which would effect SPO manpower. The results of this effort is attached.

In applying any of the tenets, a SPD should be mindful of selective application, factoring in the uniqueness of an individual program and its customers Force fitting any program to selected tenets may not only be inappropriate but also counterproductive.

DARLEEN A.DRUYUN
Acting Assistant Secretary
of the Air Force (Acquisition)

Attachments:
1. Distribution List
2. L13#3 Final Report

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2. LB#3 Final Report

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Attachment 1

Lightning Bolt # 3

Final Report

Tenets to Assist the System Program Director

Acheive Efficiencies in Operations and

Reductions in Manpower

EXECUTIVE SUMMARY

The Assistant Under Secretary of Defense for Acquisition Reform has led studies over the past few years to determine how to best streamline the DoD acquisition process. Given this groundwork, plus the impetus of further manpower reductions, SAF/AQ issued 8 Lightning Bolt initiatives in May 1995 to implement acquisition reform. Lightning Bolt #3, SPO Downsizing Tenets, views acquisition reform as an opportunity to dramatically reduce System Program Office (SPO) size by implementing streamlining initiatives. Specific stretch goals were set at 140 people in large development SPOs and 50 people in large production SPOs. These goals apply to the total workforce available to the SPD including organic and support contractor resources.

It is widely recognized that classified programs generally function with a smaller staff, so they established the foundation for Lightning Bolt #3. The methodology of Lightning Bolt #3 pursued two parallel paths; first by reviewing and integrating the concept of operations and tenets of classified programs, and second by a review of all current reengineering/reform/streamlining initiatives being implemented by AFMC Product and Logistic Centers. The product of LB #3 is a "toolbox" of tenets to assist the System Program Director (Single Managers) in restructuring their programs in the streamlined environment.

In light of our workforce reductions, the Air Force acquisition community must adopt many of the tenets of classified programs to our unclassified programs. Our paradigm for unclassified acquisition management must change. Change must be made by senior acquisition leadership as well as within our system program offices. It is realized that a part of every unclassified SPO exists to respond to external demands for data such as reports and briefings, "what-if" drills, audits, and inspections. SAF/AQ and Hq AFMC have numerous initiatives on-going that will assist in implementing this paradigm shift. Some of the initiatives (Single Acquisition Management Plan and Paperless AFSARC) are focused toward relieving the SPO of pressures brought to bear from external sources and others such as RFP support office (RFPSO) are focused at assisting the SPO in shifting non governmental responsibilities away from the SPO and toward the prime contractors. Every initiative is focused at assisting the SPD in performing the mission with reduced manpower.

This report is not a "cookbook" or a mathematical model for SPO sizing. Instead, the tenets are intended to be used as a "tool box" that should be applied thoughtfully, based on the careful judgment of the program office personnel. For purposes of this review, a tenet is defined as a practice or procedure that when applied to SPO organization efforts may achieve efficiencies in operations and reductions in manpower.

The report is divided into three chapters. Chapter 1 contains those tenets identified by senior leadership as activities every program office should be performing. Chapter 2 presents tenets that have been successfully employed by other programs and should be strongly considered for adoption based on the nature and phase of the program. Chapter 3 summarizes key points from the team's interviews with contractors, trying to capture the contractor perspective regarding Air Force streamlining.

Baselining from the current SPO structure, senior leadership determined that only certain functions must be retained by an Air Force SPO, while all others could be sourced through the prime contractor, support contractors, or eliminated completely. The inherent government functions to be performed by a SPO are as follows: Contracting, Program Management, Requirements Determination and Budgeting/Financial Management.

In general, those tenets that should be followed by every Air Force SPD embrace the following key elements:

* Aggressive Risk Management - A move away from risk avoidance toward risk management
* Insight vs. Oversight - Understanding contractor processes and managing the program via process metrics
* Clear Accountability in Design (CAID) - To the extent practical, the AF assumes no design responsibility below the functional baseline (system specification) level until the end of EMD
* Integrated Weapon System Management (IWSM) - Non adversarial team membership to include the contractor and user
* Reduce Contract Data Requirement List (CDRLs) - Use existing contractor systems for insight
* Communication of Performance specifications - What we want the system to do, not how to build it
* Flat SPO structure - accessibility to the SPD
* Maximum use of electronic media
* Maximum use of commercial off the shelf (COTS) items

Additional tenets provided in chapter 2 for the SPDs consideration embrace the following key elements:

* Maximizing the teaming efforts to include other government agencies
* Establishment of long-term government-contractor relationships
* Minimize the number of contracts/line items and make them milestone based
* Contractor developed logistics support plan focused on 4 critical parameters
* Minimize and refocus engineering staff
* Borrow expertise rather than maintain within the SPO

Applying these tools, the objective SPO emerges. This integrates the government program office, customer, and the contractor into a close knit team focused on program goals. They rely on a streamlined chain of command that shares responsibility and accountability in the meeting of these program goals.

In applying any of the tenets, a SPO should be very mindful of selective application, factoring in the uniqueness of an individual program and its stakeholders. Force fitting any program to selected tenets may not only be inappropriate but also counterproductive.

Introduction

The message is clear. The Cold War is over and the American people are looking for a peace dividend. The Air Force modernization program will not be as robust as it was during the 1980s and early 1990s. The Congress will not support large research, development and investment budgets, therefore DoD's acquisition infrastructure must be reduced. The Secretary of Defense has directed:

> "DoD must reduce the costs of the acquisition process by elimination of activities that although being performed by many dedicated and hard working personnel, are not necessary or cost effective in today's environment."

By the end of the decade the Air Force acquisition workforce will be one-third smaller than it was in 1990, and Congress is demanding further reductions. For us to effectively serve our war fighters needs we must change our paradigm for acquisition management. The time for this change is now, not when we find ourselves with a "skeleton crew." There are many on-going initiatives that will assist us in our paradigm change, Lightning Bolt #3 is just one of them.

The concept of Special Access Required (SAR) acquisition management has become synonymous with acquiring DOD weapon systems both quickly and successfully with small program office teams. With that thought in mind SAF/AQ created Lightning Bolt #3: "Develop a new SPO manpower model that uses the tenets of classified/SAR level programs for use in SPO downsizing efforts". The thrust of Lightning Bolt #3 was then expanded to include a comprehensive review of all promising acquisition reform and streamlining initiatives affecting SPO size. For purposes of this review, a tenet is defined as a practice or procedure that when applied to SPO organization efforts may achieve efficiencies in operations and reductions in manpower. The concept of a model was deleted in favor of a compendium of tenets with community-wide applicability, selectively applied.

SAF/AQX and AFMC/DRM were jointly tasked to identify tenets for SPO downsizing. Two IPTs were formed with the goal of identifying 1) SAR program tenets (this team was chartered by Lt Gen Scofield, ASC/CC) and 2) unclassified program office reform and streamlining initiatives focused at reducing SPO size. These teams reviewed all the initiatives at each of the nine product and logistics centers, then consolidated the inputs. In addition to the above information gathering sessions, three PEO and one DAC Acquisition Renaissance Conference addressed the subject of Lightning Bolt #3 and provided opinions and guidance to assist in the preparation of this report. Further, during the study, the team received comments from four major defense contractors who have track records of good performance in

SAR programs. These contractors comments are provided for your information and use as applicable.

Starting from the SPO structure as we know it today, senior leadership determined that only certain functions must be retained by an Air Force SPO, while all others could be sourced through the prime contractor, support contractors, or eliminated completely. The inherent government functions to be performed by a SPO are:

- **Contracting** - The processing of the contractual documentation and obligation of the government to pay for provided materiel and/or services.
- **Program Management** - Evolves around understanding and managing risk through evaluation of program cost, schedule, and performance. A key component of this area is technical assessment - determining pass/fail of intermediate and final test criteria.
- **Requirements Determination** - Setting the quality, quantity, and performance characteristics required from a procurement.
- **Budgeting and Financial Management** - The programming for, obligation of, and accounting for SPO funds.

The foundation of the report was laid by the team reviewing the classified program office operating tenets. The report was then formulated into four basic sections:

Chapter 1 contains those tenets identified by senior leadership as efforts every program office should be performing.

Chapter 2 presents tenets that have been successfully employed by other programs and should be strongly considered for adoption based on the nature and phase of the program.

Chapter 3 summarizes key points from the team's interviews with contractors, trying to capture those that reflect unique contractor perspectives.

This report is intended to provide some useful tenets for all SPOs--SAR and non-SAR---to address their individual downsizing challenges. It is not intended to provide a mathematical model for downsizing, but rather a toolbox that should be applied thoughtfully based on the careful judgment of the integrated program team (all levels) to "right size" an individual SPO for a specific program.

Chapter 1

This chapter contains those tenets identified by senior leadership as efforts every program office should be performing. They are useful in maximizing the effectiveness of personnel while maintaining a streamlined program office with limited resources**.**

1. Aggressive risk management is the expected way of doing business.

Attributes

- Knowledge on the part of the single manager that leadership is willing to accept a level of technical risk clears the path for quicker day-to-day decisions.

- Accepting more risk has a direct correlation on SPO sizing due to decreased oversight across the board and the elimination of contracted risk mitigation tasks which don't require program execution activities. The number of SPO personnel needed to manage a specific acquisition and risk acceptance should both be an integral part of the Acquisition Strategy Panel deliberation.

- Contract relationships are structured to generate "off ramps" where the government can cease activity if cost, schedule, performance trades aren't beneficial.

Benefit

Accepting a reasonable amount of risk allows for fewer people to direct far more of their efforts towards program management and execution exclusively. They are empowered to make decisions, know they have the support of senior leadership and are not "career dead" if things don't work out well the first time around. Under this tenet, programs are born quickly, but can also die quickly if the technology/cost tradeoff is not beneficial.

2. Use insight vs oversight.

Attributes

- Fundamental to insight is a non-adversarial and trusting government-contractor relationship. This open and collaborative environment reduces much duplication of effort.

- Gain insight through understanding and verification of contractor processes. Maintain insight through the periodic review of contractor metrics and participation on contractor process teams.

- Contractors generally have long-standing involvement in defense system development and production. Credentials are established over several successful acquisition programs and trust is established over time.

- Fewer people of necessity minimize duplication of disciplines on a one-for-one basis between government and contractor offices. Joint contractor/government teams (an expansion of the IPT concept) work toward common objectives.

Benefit

Forming a single government/industry team permits the SPO to staff itself with personnel who augment contractor weaknesses. SPO manning does not include functions that the contractor can and does perform well.

3. Use Clear Accountability in Design (CAID)

Attributes

- Manage the contract for end results. To the extent practical during development, government specification control does not go below the functional baseline (performance/system specification) level until the end of EMD.

- The government may take control of the top-level allocated baseline (performance) specifications before the end of EMD when conditions such as risk or logistics considerations warrant such control.

- The government normally takes control of the allocated baseline (performance) specifications at the end of EMD after successful completion of FCA.

- The government takes control of the product baseline (hardware, design) specifications after successful completion of PCA when program acquisition and maintenance strategies require government control of the design solution.

- An effective risk management process is in place.

- A government/contractor team is established with clearly defined roles.

- Have contractor perform audits and verify compliance via documentation.

Benefits

Allows the contractor more latitude in defining, allocation, handling and managing performance requirements below the system level--i.e., maximum creativity on how to meet the requirements. The contractor is responsible for the design and as

such would be responsible for items such as Independent Validation and Verification (IV&V) if required; the government is not responsible for the design and as such would not conduct nor contract for an IV&V. Formal engineering changes will be significantly reduced during the engineering, manufacturing, and development phase.

4. Advanced Integrated Weapon System Management. Broaden teams to include "user" and contractor.

Attributes

- Contractor members provide direct feedback/insight into program developments.

- User members assist in continuously validating requirements.

- Single face to both customer and contractor

Benefit

Matures IWSM to the next step, streamlining government decision making and broadening IPT membership to include the user and the contractor. In essence, this step blurs the line of program office, customer, and contractor and helps ensure clear transmission of requirement, as well as elimination of false performance expectations. In addition, this concept builds user "buy in" that should translate into strong support thus helping stabilize funding.

5. Use industry processes, restrict government imposed specifications and standards, and allow contractor format.

Attributes

- Government relinquishes process control to the contractor. Move away from mandatory inspections at many steps and concentrate on statistically out of control processes.

- Minimizes CDRLs. Engineers work closely and informally with their industry counterparts, so the CDRL isn't the primary line of communication.

- Government accepts that contractor data bases constitute the majority of the program's data base.

- Both the government and the contractors record important work, not the minutia.

Benefits

Allows use of contractor processes rather than government mandated procedures that add little value. Information is available and communication occurs earlier, which enhances "do it right the first time" success. Furthermore, the contractor requires less time, money, and manpower to generate the CDRLs. Having access to contractor databases allows continuous updates, not just periodic reports. (e.g., both government and contractor always working with most current and common information.) Likewise, the program office requires less time and manpower to review the deliverables. SPOs avoid ordering and paying for reams of unread and irrelevant documentation

6. Top level, performance based specifications/requirements are clearly defined and communicated to the contractor(s) prior to contract award.

Attributes

- The core engineering team, including user participation, translates user requirements into program requirements during pre-Milestone 1 activities. During this time frame, the initial cadre is manned with the same high competence level typical of later program phases.

- Face-to-face discussions between government and industry ensure the top-level performance requirements are clearly understood by both sides.

- Defined requirements are "bought-off" by SPO, user, and contractors prior to contract award. This ensures more stable requirements throughout the program life.

Benefits

The contractors have more latitude to propose innovative solutions, and can design the system with few, if any, unnecessary constraints. Face-to-face interaction is essential to building the government/contractor trust and a "no-secrets" culture. Correspondence and misunderstandings are minimized.

7. Simple and flat SPO organization structures prevail throughout the program. There is a clear single line of accountability.

Attributes

- Reporting levels are minimized to create an atmosphere of accessibility to the single manager, as well as giving the single manager insight at the working level.

- The number of government project managers is kept small to prevent internally generated and duplicative work/responsibility.

- Based on the observation that SPOs with more personnel tended to create more work, streamlined SPOs minimized the work for both themselves and their contractors by keeping SPO size down.

- With fewer people, greater reliance and trust was placed on the contractor as a team member. This arrangement led to routine, informal interaction, thereby negating the need for many regularly scheduled formal meetings.

- Due to their small size, these SPOs minimized additional duties. With all SPOs downsizing, Program Directors must resist burdening their personnel with tasks not directly adding value to the program.

- Functional stovepipes are eliminated, with all program personnel focused on a single goal - product delivery.

- Employ Integrated Product Teams.

- The Work Breakdown Structure is a powerful tool in managing a program and should be considered in structuring the SPO organization.

- SPO sizing and organization is considered during the Acquisition Strategy Panel deliberations.

Benefit

Complex hierarchies often confuse accountability and encourage turf wars by generating competition within the SPO. Streamlined organizations have fewer people, fewer meetings, fewer people at meetings, less OPRs/appraisals, and smaller administrative staffs. The small number of managers permits SPDs to concentrate on facilitating, coordinating, and controlling broad areas of responsibilities, rather than narrow aspects of the program. Also, technical decision authority and responsibility reside with the individual having the detailed insight into the technical performance, cost, schedule and risk aspects of the program. Finally, duplicative communications, coordination, and misunderstanding with the contractor are reduced, as is the contractor management staff.

In addition, this singleness of focus eliminates extraneous efforts, especially those emanating specifically from functional sources. If an element is not clearly necessary for the advancement of the delivery of the product, then it is not accomplished. This underscores the single line of accountability through the decision authorities, not through the various functional chains.

8. The SPO has complete access to all contractor facilities, data, and program personnel. Program offices place heavy reliance on contractor data bases, and limit number of CDRLs

Attributes

- Reliance on contractor's existing data bases and using contractor report formats provide for simplified cost/schedule reporting and limits CDRL encumbrances.

- Use contractor and subcontractor cost and schedule data base information. Man-hours tracking information should be made available by the contractor.

- Timely status of schedule and costs incurred and projected cost estimates are available for technical trade-off and risk management decisions.

- Not having any secrets from other program participants leads to not having any unpleasant surprises. Problems can be faced early on, when they can be solved with the least amount of effort and money.

Benefits

People by their very nature will find reasons to generate requirements, oversee the implementation, and validate the results. There is a direct correlation between SPO size and the number of contract specifications, CDRLs and reviews. Simplified contract structures and reporting levels, coupled with greater interaction with the contractor for real-time decision making, created streamline processes at reduced manning levels. Major workload that provides no product improvement/value-added is removed. Critical information is available to highlight where government requirements interpretation/clarification is required for technical performance, cost, schedule, and risk trade-off decisions. As a result, timely management actions can be implemented.

9. Maximize use of electronic media such as video teleconferencing, local area network, wide area network, electronic bulletin boards, world wide web (VTC, LAN, WAN, EBB, and WWW), and computer disk.

Attributes

- In the competitive environment, the electronic bulletin board facilitates the pre-award process:

    -- Solicitation for Information (SFI)

    -- Draft Requirements Documents

    -- Draft Request for Proposal (RFP)/Formal RFP

- The contractor is tasked to prepare relevant program/contractual documentation and transmit via LAN/WAN/disk

- Negotiations/conferences, etc., can be conducted via VTC.

- Electronic media facilitates use of electronic evaluation tools.

- Joint contractor/government shared contracting/pricing databases

Benefits

Eliminating redundant tasking reduces the iterative paperwork review process, saves schedule, and increases personnel efficiency. Use of electronic media reduces the TDY travel and operating budget in support of the program and allows for an increased number of informal, productive meetings. Shared databases and standardized formats results in consistent access and presentation of important data. Use of electronic media in general expedites the contractual process, as well as facilitating the use of electronic evaluation tools.

10. Maximize the use of off-the-shelf hardware and software, especially for quick reaction programs.

Attributes

- Working as part of the team, SPO engineers often make available technologies from other systems unknown to the contractor, giving the contractor design freedom to use these technologies as they judge appropriate.

- Contractor use of open systems architectures provides multiple design solutions and most efficient upgrade/modification capability.

Benefits

Development schedule and costs are lessened, and the design team needs fewer engineers.

11. Metrics reporting was held to an absolute "value-added" minimu m.

Attributes

- Every metric is questioned with, "how will this drive the desired behavior/ outcome?".

- The metric will track an item the SPD has determined to be critical to insight into the contractors processes and the programs risk management philosophy.

Benefit

Metrics are a valuable management tool as long as they are well thought out, have a direct tie to a stakeholder with clear accountability for the reported element and are held to an absolute minimum.

Chapter 2

The following tenets should be considered by the single manager for use while downsizing. These tenets have been successfully employed in other programs. Single managers are urged to strongly consider these tenets for adoption based on the nature and phase of their program.

1. Select a quality contractor and place much greater effort and responsibility on the contractor.

Attributes

- Select a contractor based on past performance and their ability to define a viable program. Use a Statement of Objective (SOO) in the contract which requires the contractor to detail their proposed means of meeting the SOO, including details of applicable supporting processes - essentially a contractor peculiar statement of work.

- Place total system cost, schedule, and performance responsibility (Total System Performance Responsibility - TSPR) on the contractor.

- Use performance specifications, developed in close cooperation with the user, which have few "critical requirements," mostly goals.

- Contracts will incorporate meaningful incentives/penalties.

Benefits

A quality contractor, with a strong performance track record and a good approach to meeting the current program requirements, will give the government an element of security as they entrust them with significantly greater responsibility, thereby reducing SPO manpower required for oversight. Utilizing a SOO requires the contractor to lay out their program and supporting processes, yet provides maximum flexibility to creatively meet the government's requirements by the most economical means. Finally, by astutely applying the "carrot and stick" during negotiations, contracting, and execution, the government and contractor should be able to focus on mutual program goals for a win-win solution.

2. Minimize number of contracts and use a simplified contract structure based on as few contract line item numbers (CLINs) as possible.

Attributes

- Let critical program requirements drive simplified contract structure.

- Use a single integrating contractor from the start or consider consolidating existing multiple contracts into one or a limited number of contracts.

- Top-level statement of work is developed based on critical program objectives/requirements -- now called statement of objective (SOO). Only "what" requirements (performance) are addressed, not "how to".

- CDRL items are kept to the absolute minimum, with contractor data bases and formats used to the maximum extent possible.

- The minimal number of simple CLINs support top level SOO requirements. Favorable contractor payment methods such as milestone billings, are incorporated as rewards or incentives, by enhancing cash flow that would be slowed by traditional CLIN structure.

- Contract administration efforts are reduced by negotiating fewer but longer contracts (options and multi-year) and minimizing the number of contract changes.

- Use of contract types permitting flexibility and efficient response are crucial to meeting unique specialized program needs. Such contract types include Basic Order Agreements (BOAs) and Task Orders, for specific engineering tasks.

Benefits

Contracts are limited and less complicated, and thus require fewer people to manage. Change incorporation is minimized to the greatest extent possible. The contract is "program" not "procedure" oriented, only value-added effort is documented.

3. Optimize teaming efforts with the contractor and other government agencies to ensure efficient use of resources. Use a totally integrated team approach, cover the system from development to disposal.

Attributes

- Key is joint participation on key process teams.

- Augment any contractor weaknesses with government strengths. We each bring our strengths to the teams and thereby increase each others efficiency.

- Outside agencies accept accountability to the SPD for successful program implementation and support.

- On-site activities are delegated as much as possible to DCMC ACOs, pricing, and engineering resources. Prime consideration is which agency can perform the task the best.

- The Acquisition Program Baseline, Draft Request for Proposal (RFP), Statement of Work/Objectives (SOW/SOO) and Contract Data Requirements List (CDRL) are jointly developed, to the maximum extent possible.

- Teaming with the contractor during proposal preparation streamlines validation of direct hour and material requirements.

- Use DLA and DCAA to off-load traditional in-house SPO contracting and pricing functions -- don't duplicate these at SPO.

- Contract documents are prepared by the contractor and submitted to the government on disk media, where possible.

Benefits

The contractor and government personnel become true partners in achieving program success. Common goals at all levels, on both sides, get the product to the field quickly and efficiently. Continuous brainstorming and joint discussions boost creativity and substantially improve program understanding. This reduces negotiation gaming on each side and the level of redundant effort. Duplicative effort is kept to a minimum. The program is emphasized as a whole and not from a "my piece" parochial perspective.

4. Establish "long term" contractor-government relationships to facilitate the contracting process.

Attributes

- When the mission is stable and competition is not practical, senior acquisition leadership approves multi-year class J&A/acquisition plans for the entire program.

- When competition is possible and in the best interest of the program, ensure EMD RFPs require out year unit production pricing curves or not to exceed unit costs extending as far into the future as practical. If the contractor meets the proposed curves/costs, significant incentives should be considered. If the contractor fails to meet proposed curves/costs, significant penalties should apply, such as paying to qualify a second source.

- Incorporate long term warranty provisions, where possible.

- Long term depot support services are also incentives for the contractor.

- The contractor is held accountable with meaningful rewards and penalties.

Benefits

Long term relationships and teaming builds trust and commitment within the program because both sides have a vested interest in success. The contractor will take actions to support and invest in the program when competition is not a constant threat. Contract administrative burden is also drastically reduced on both sides.

5. A single plan for life-cycle, cradle to grave, logistics support is developed by the prime contractor in coordination with a small cadre of program office and user personnel.

Attributes

- The prime contractor develops a single plan for integrated support, and it is refined through close coordination with logistics partners on the team. As a result, the number of logistics personnel resident in the program office can be significantly reduced.

- Agreements on common requirements, while more difficult, must be achieved for multi-service/user programs to ensure development of a single plan. Thorough coordination with users is critical.

- The Single Manager is responsible for managing support activities and coordinating taskings for logistics partners. As a result, support activities are always well focused early enough to benefit the program.

- The logistics partnership includes support from relevant air logistics center(s) when required. Logistics personnel with sustainment skills define life cycle, fielding and modification considerations during requirements determination phase and beyond.

Benefits

This eliminates duplicative planning activity by logistics partners and enables faster decision making. Logistics expertise is applied during all stages of cradle-to-grave product management. The key to establishing an effective support is the definition of critical support parameters early in the acquisition phase. Support requirements determination is accomplished by a very small, empowered team. Further, this complete, up-front planning enables the managers to scope the program and plan accordingly.

6. The approach to Integrated Logistics Support (ILS) is focused on 4 critical parameters: support equipment, technical orders, training, and spares.

Attributes

- Use critical tasks to focus contractor efforts and tailor any needed Logistics Support Analysis (LSA).

- In-depth contractor analysis focuses only on critical logistics tasks.

Benefits

CDRL requirements are very streamlined and contractor format is used. As a result, there is a reliance on the contractor's data base as the predominant source of information. This information is increasingly available electronically.

7. Quick turnaround on repairables is achieved through lean logistics.

Attributes

- Spare and item requisitioning and tracking are not exclusively dependent upon use of the current logistics data systems; but must be integrated with them; may be contract or organic.

- User turnaround times are met via expedited transportation modes both CONUS and OCONUS.

Benefits

- User satisfaction levels increase due to rapid turnarounds. Smaller inventories become the norm.

8. Rely on a minimum number of engineers with both technical breadth and depth. Typically, these engineers are generalists who also have a specific area of expertise.

Attributes

- Select personnel based on specific qualifications matching SPO needs, as well as the individual's motivation, positive attitude, and leadership qualities, not seniority.

- A flexible engineering skills mix is used to meet the changing program risk or progress requirements. As the program progresses and the required engineering skills mix changes, engineers no longer needed by the program are moved out of the SPO, while new talent is brought in.

- 80% of program cost is determined early in acquisition, so peak manning should occur in the up front portion of the program. A cradle-to-grave manpower management plan will reflect this acquisition strategy.

- Engineers are brought into the program early to participate in the continual requirements generation and interpretation process.

- Engineers are empowered to make decisions.

- The SPO engineering staff has frequent and direct contact with both the users and the contractor's technical staffs, assisting the requirements flow-down process.

Benefits

Every engineer feels empowered to work with the contractor and make decisions as needed. In addition, good ideas aren't lost in a SPO hierarchy. The technical staffs (manufacturing, logistics, and engineering personnel) can be physically collocated with each other in joint government and contractor teaming areas. Finally, SPO manning is minimized.

9. Make use of short term engineering experts, "borrowed help," from other organizations and services.

Attributes

- The right experts are assigned to the SPO on a temporary basis to solve the problem, then go back to their normal jobs. (Tiger team approach.)

- Judicious use of short-term home office, laboratory, FFRDC, and CAAS support contractors provides powerful experience base at minimum cost.

Benefits

The engineering talent available to the SPO is far greater than just the assigned engineering staff. Specialists can assist the SPO, but not swell the SPO numbers. In effect, a "sunset clause" is built into the specialist's tenure on the program.

10. Utilize Developmental Test & Evaluation alternatives.

Attributes

- Contractor DT&E. Place emphasis on understanding test procedures/results instead of direct monitoring. As a result, we emphasize understanding how the tests will verify performance and reviewing the results. Examples: Have contractor develop TEMP in coordination with program office and user. Consider contractor developing operational flight program or perform block updates.

Note: This alternative is not an infrastructure issue; this does not advocate developing contractor facilities in lieu of existing government facilities.

- Use another agency/organization to provide SPO test support functions. This can include everything from writing the TEMP to performing the entire DT&E function. Examples include AMRAAM use of 46 TW as the responsible test organization and the F-22 Combined Test Force concept.

- Additional methods to minimize manpower include combining DT&E and OT&E testing as well as increasing the use of modeling and simulation.

Benefits

In recognition of the strong role the contractor already plays in DT&E, additional manpower savings can be realized through movement to an insight role and taking advantage of contractor testing that is performed to ensure compliance. Redundant testing by the contractor and government should be minimized by close cooperation and a complete understanding of the test metric that needs to be accomplished. The DT&E and OT&E test points that are the same should only be accomplished once and credit taken in both places.

Chapter 3

Contractor Comments

During our study, the team received comments from four major defense contractors who have track records of good performance in SAR programs. These contractors welcomed the opportunity to discuss their ideas on "good tenets" of SAR programs and on ways to reduce the size of both government and contractor program teams.

One interesting set of "tenets" or management guidelines was the Skunk Works Management Methods developed by the late Clarence "Kelly" Johnson, renowned manager of the Lockheed Advanced Development Products (ADP). These "Kelly principles" have been honed over the years and applied to most specialized management programs at Lockheed. They are worthy of note since they parallel closely the major tenets at other locations within industry and the government. While not all the principles lead directly to manpower reductions, many, if applied properly, will lead to long term manpower reductions by government SPOs and contractor teams.

Basic Operating Rules of the "Skunk Works" or Kelly's Principles:

1. The Skunk Works manager must be delegated practically complete control of his program in all aspects. He should report to a division president or higher.

2. Strong *but small* project offices must be provided both by the military and industry.

3. The number of people having any connection with the project must be restricted in an almost vicious manner. Use a small number of good people (10% to 25% compared to the so-called normal systems).

4. A very simple drawing and drawing release system with great flexibility for making changes must be provided.

5. There must be a minimum number of reports required, but *important* work must be recorded thoroughly.

6. There must be a monthly cost review covering not only what has been spent and committed but also projected costs to the conclusion of the program. Don't have the books ninety days late and don't surprise the customer with sudden overruns.

7. The contractor must be delegated and must assume more than *normal* responsibility to get good vendor bids for subcontract on the project. Commercial bid procedures are very often better than military ones.

8. The inspection system as currently used by ADP, which has been approved by both the Air Force and Navy, meets the intent of existing military requirements and should be used on new projects. Push more basic inspection responsibility back to subcontractors and vendors. Don't duplicate so much inspection.

9. The contractor *must* be delegated the authority to test his final product in flight. He can and must test it in the initial stages. If he doesn't, he rapidly loses his competency to design other vehicles.

10. The specifications applying to the hardware must be agreed to in *advance* of contracting. The ADP practice of having a specification section stating clearly which important military specifications will not knowingly be complied with and reasons therefore is highly recommended.

11. Funding a program must be *timely* so that the contractor doesn't have to keep running to the bank to support government projects.

12. There must be mutual trust between the military project organization and the contractor with very close cooperation and liaison on a day-to-day basis. This cuts down misunderstanding and correspondence to an absolute minimum.

13. Access by outsiders to the project and its personnel must be strictly controlled by appropriate security measures.

14. Because only a few people will be used in engineering and most other areas, ways must be provided to reward good performance by *pay not based on the number of personnel supervised.*

In addition to the Kelly principles, the industry representatives provided very valuable thoughts which program managers should consider as they "size" their particular program staffs. Further, senior Air Force management should consider some of these principles to assist the program managers in managing program risk. Some of industry's interesting observations which should be considered are as follows:

- Rotating government personnel is inevitable, industry believes too frequent rotation of key government people is counterproductive, causing costly retraining, education, and excessively revisiting many previous decisions. Industry's desires are synonymous with Air Force policy (though not universally applied) to leave key decision makers in place until major milestones.

- Industry believes a strong government engineering presence is essential through Critical Design Review (CDR) to properly interpret requirements; however, many believe the government engineering effort should be sharply reduced during the production phase. The government should rely more on the contractors during this phase.

- To provide more flexibility to both the contractor and the government, industry believes the use of task orders should be expanded. Task orders allow work to begin more quickly through the use of an engineering hour pool.

- Industry believes SAR programs have been successful because they connote a "state of mind" not prevalent in normal programs. The people involved with these programs "feel" special and have higher morale. Industry also believes SAR programs definitely have strong user support and are generally led by strong leaders. Industry further believes that this state of mind and strong leadership can't be achieved by dictating through regulations.

- While there is Air Force direction to cancel "policy" associated with acquisition except those of SAF/AQ and AFMC/CC, some in industry believe all acquisition policy should be canceled. The government should push forward with acquisition reform by starting anew, emphasizing the common sense needs of individual programs.

- Industry was very strong in its belief that the government should not duplicate what it is already paying industry to do, i.e., the government shouldn't perform the same tasks. Further, industry felt the government should do a better job in not duplicating the same tasks in different parts of a contract, in different clauses, or in similar contracts.

- Industry was universal in its belief that audits and systems analyses by various government agencies or chartered groups such as facility, government furnished property, financial, engineering, and operations analyses, have not translated into reduced customer costs or more timely decisions. There was a clear feeling that too many audits and reviews remain in both SAR and normal acquisition programs, far more than any benefit they provide.

- Industry is a strong supporter of the current Mil Spec/Mil Std reform and suggests that it be accelerated. Industry was also quick to add that deleting all Mil Specs/Mil Stds was not always appropriate since in some cases other standards don't exist.

- The contractors felt that while some functions must be performed by the government, industry was much better prepared and capable of performing many functions such as the systems engineering to turn operational requirements into a

design, ensuring reliability, maintainability and support ability, and establishing the logistics support systems.

- Industry felt strongly that reducing the number of SPO personnel will allow reducing contractor staff as well. For example, industry believes it must duplicate the SPO's staff to have a near one-to-one relationship. They stated that if six low observable engineers are in the SPO, then at least six low observable engineers will be at the contractor's facility to answer government questions.

- Some in industry felt that the reward and punishment system for contractors needs revamping during the reform movement. These contractors believed the reward system for good performance was too modest and the punishment system for poor performance was non-existent.

- Industry asserted a process and procedure oriented government acquisition system stifles creativity and that a "too hard to do mentality" sets in. For government employees, there is little or no reward for challenging the system. Industry amplified their belief that oversight and second guessing of both government and industry acquisition organizations is overbearing. With this environment, management does not feel empowered and will not commit to critical decisions in a rapid manner.

Again, the thoughts and observations provided by industry are included to make the report complete and to provide ideas for senior management and program managers to consider. The SAR team doesn't necessarily endorse every industry comment, but they do offer food for thought. Some can directly lead to manpower savings while others may require leadership style changes or changes in policy.